

EXHIBIT 2

(PUBLIC)



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UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION

RAI STRATEGIC HOLDINGS, INC. and
R.J. REYNOLDS VAPOR COMPANY,

Plaintiffs and Counterclaim
Defendants,

v.

ALTRIA CLIENT SERVICES LLC; PHILIP
MORRIS USA, INC.; and PHILIP
MORRIS PRODUCTS S.A.,

Defendants and Counterclaim
Plaintiffs.

Case No. 1:20-cv-00393

**REPORT OF
RYAN SULLIVAN, Ph.D.**

A handwritten signature in black ink, appearing to read "Ryan Sullivan".

Ryan Sullivan, Ph.D.

March 24, 2021

art approaches. A more complete analysis demonstrates that the alleged cost savings are nonexistent or, at most, minimal.

(129) I discuss these and other points of disagreement with the Meyer Report's analysis below.

8.2. [REDACTED] agreement ('374 patent)

8.2.1. Royalty rate

(130) Of critical importance to the Meyer Report's reasonable royalty opinion for the '374 patent is its justification (or lack thereof) for the [REDACTED] rate it ultimately uses to calculate royalties. As an initial matter, the Meyer Report's analysis seemingly ignores a significant difference between the [REDACTED] agreement and the agreement resulting from the hypothetical negotiation for the '374 patent, with the former being a purchase agreement for multiple patents, patent applications, and other intellectual property and the latter a bare patent license.³¹⁴ To be sure, the Fontem-RJRV agreement is a more appropriate agreement to use since it includes a license to patents that are comparable to the '374 patent rather than a purchase of patents (see Section 13). Yet, leaving the difference between a patent purchase agreement and a license agreement aside, the Meyer Report does not use any actual, transacted financial consideration exchanged as part of the [REDACTED] agreement to quantify its royalties for the '374 patent, instead relying on a running royalty rate of [REDACTED] that has never been paid to license the '374 patent.

(131) Indeed, the Meyer Report does not identify any executed agreement with rights to the '374 patent that has a running royalty rate of [REDACTED] of net sales. To be sure, it is likely no such agreements exist. Indeed, Michael Manson, an Altria 30(b)(6) witness on licensing matters for the '374 patent,³¹⁵ [REDACTED]

[REDACTED]³¹⁶ As I discuss below in Section 13.1, the Market

³¹⁴ See Section 12.4.1.

³¹⁵ Michael Manson, Dep. Tr., 11/18/2020, at 14:13–16:11, Exhibit 2. (Indicating Mr. Manson as being designated for licensing related topics 17, 18, and 20 for the Altria Asserted Patents.)

³¹⁶ Michael Manson, Dep. Tr., 11/18/2020, at 162:16–164:10. [REDACTED]

Additionally, ACS and PM USA identify only four agreements that are comparable to the '545 and '374 patents. Notably, two of the agreements are the Fontem-RJRV (RJREDVA_001521385–1559) and [REDACTED] (ALTRIA_IQOS_EDVA0000001784–1838) agreements, which do not include the asserted patents. See Sections 12.2.1 and

Approach to determining reasonable royalties is premised on the use of *actual transactions* for rights to the patent or similar technology. In contrast, and as discussed below, the [REDACTED] royalty rate the Meyer Report uses is a hypothetical rate that appears to be aspirational since it is not based on any market transactions that could serve as an appropriate basis for determining a reasonable royalty.³¹⁷

- (132) The Meyer Report discusses the [REDACTED] royalty rate in relation to [REDACTED]
[REDACTED]³¹⁸ The [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]³¹⁹ However, [REDACTED] does not provide any credibility to a rate of [REDACTED] or more being an appropriate rate for a license to the '374 patent for at least the reason that [REDACTED] More importantly, and as noted above, the rates assumed in the [REDACTED] are not based on any actual real-world license agreements identified by the Meyer Report. Accordingly, the hypothesized rates in the [REDACTED] are unsubstantiated and therefore not a reliable indication of what RJRV would have agreed to at the hypothetical negotiation for the '374 patent.

12.2.2. The other two agreements are the [REDACTED] (ALTRIA_IQOS_EDVA0000000001-0151) and [REDACTED] (ALTRIA_IQOS_EDVA0000000161-0254) agreements. See Sections 12.3.4 and 12.4.1. See also:

Altria Client Services LLC and Philip Morris USA Inc.'s Second Supplemental Objections and Responses to Plaintiffs' Third Set of Interrogatories (No. 18), 2/23/2021, at Supplemental Response to Interrogatory No. 18 (Nov. 2, 2020), Second Supplemental Response to Interrogatory No. 18 (Feb. 23, 2021).

³¹⁷ See, for example:

Meyer Report, 2/24/2021, ¶¶ 152-153. (Discussion of [REDACTED]
[REDACTED])

Intellectual Property Purchase Agreement, 12/30/2016 (ALTRIA_IQOS_EDVA0000000161-0254, at ALTRIA_IQOS_EDVA0000000204-05). (The "Patent Financial Analysis" referenced by the Meyer Report.)

³¹⁸ Meyer Report, 2/24/2021, ¶¶ 152-153.

³¹⁹ Meyer Report, 2/24/2021, ¶ 152. [REDACTED]
[REDACTED]

Eric Hawes, Dep Tr., 12/4/2020, at 142:4-143:2. [REDACTED]
[REDACTED]

See also:

Intellectual Property Purchase Agreement, 12/30/2016 (ALTRIA_IQOS_EDVA0000000161-0254, at ALTRIA_IQOS_EDVA0000000204).

(133) Moreover, evidence in this case indicates that [REDACTED]
[REDACTED]
[REDACTED] Indeed, Eric Hawes, ACS' Director of Heated Tobacco Products and 30(b)(6) witness on topics related to the agreements by which ACS obtained the '374 patent,³²⁰ testified that [REDACTED]
[REDACTED]
[REDACTED]³²¹ [REDACTED]
[REDACTED]³²² Mr. Hawes further testified that [REDACTED]
[REDACTED]³²³
Consistent with this, Mr. Hawes also testified that [REDACTED]
[REDACTED]
[REDACTED]³²⁴ Moreover, Mr. Hawes testified that [REDACTED]
[REDACTED]³²⁵ That Mr. Hawes could not identify any instances of [REDACTED]
[REDACTED]
[REDACTED] calls into question the relevance of [REDACTED]
[REDACTED]

(134) Additionally, as the seller of Patent Family A, [REDACTED] would be incentivized to receive the maximum compensation ACS would be willing to pay for Patent Family A. Such incentives are aligned with presenting the licensing outcomes in the [REDACTED] in a way that could overstate the value of Patent Family A by using assumptions that are highly favorable or potentially unrealistic. The Meyer Report provides no evidence or analysis that would demonstrate that any e-cigarette provider has been willing to pay a royalty rate of [REDACTED] for the rights to Patent Family A, let alone the '374 patent only. Thus, the [REDACTED] used as a primary basis for the Meyer Report's '374 patent royalty opinion is akin to reliance on an

³²⁰ Eric Hawes, Dep Tr., 12/4/2020, at 12:8–14:4, 18:9–14, Exhibit 2.

³²¹ Eric Hawes, Dep Tr., 12/4/2020, at 125:7–15.

³²² Eric Hawes, Dep Tr., 12/4/2020, at 126:21–127:12.

³²³ Eric Hawes, Dep Tr., 12/4/2020, at 122:20–25.

³²⁴ Eric Hawes, Dep Tr., 12/4/2020, at 127:13–128:9, 145:12–25, 160:25–161:5.

³²⁵ Eric Hawes, Dep Tr., 12/4/2020, at 108:9–21, 122:12–19.

unaccepted offer, which I understand courts have held is not a reliable indicator of a reasonable royalty rate.³²⁶

8.2.2. Claims regarding value

(135) The Meyer Report states that “the consideration in [REDACTED] [REDACTED] should be apportioned entirely to Patent Family A (specifically the ’321 Patent and the ’374 Application).”³²⁷ In other words, the Meyer Report’s analysis assumes that none of the other intellectual property sold to ACS as part of the purchase agreement had any value reflected in the financial consideration paid. Such a claim ignores other components of potential value conveyed as part of the agreement including: other patents/patent applications in Patent Family A, Patent Family B, Patent Family C, in addition to all other owned patents by [REDACTED] and other inventions specifically identified in the agreement.³²⁸ Indeed, Mr. Hawes testified that [REDACTED] [REDACTED]³²⁹ Moreover, the Meyer Report contradicts itself when it claims that its baseline royalty rate of [REDACTED] for the ’374 patent alone is an apportioned value that reflects “the value of the ’321 Patent and *other IP that ACS acquired*.”³³⁰ It is unclear how the Meyer Report simultaneously apportions all of the consideration to the

³²⁶ *Whitserve, LLC v. Computer Packages, Inc.*, 694 F.3d 10, 29-30 (Fed. Cir. 2012). (Citing *Deere & Co. v. Int’l Harvester Co.*, 710 F.2d 1551, 1557 (Fed.Cir.1983), upholding a district court’s decision to give little probative value to an offer to license. “We acknowledge that proposed licenses may have some value for determining a reasonable royalty in certain situations. Their evidentiary value is limited, however, by, *inter alia*, the fact that patentees could artificially inflate the royalty rate by making outrageous offers.”)

Rite-Hite Corp. v. Kelley Co., Inc., 56 F.3d 1538, 1549–1550, 1555 (Fed. Cir. 1995). (“[The] imposition on a patent owner who would not have licensed his invention for [a certain] royalty is a form of compulsory license, against the will and interest of the person wronged, in favor of the wrongdoer.”). Moreover, what an infringer would prefer to pay is not the test for damages.”). (Internal citations omitted).

³²⁷ Meyer Report, 2/24/2021, ¶ 154.

³²⁸ The agreement defines the Smart Chip Patents as [REDACTED]

See:

Intellectual Property Purchase Agreement, 12/30/2016 (ALTRIA_IQOS_EDVA0000000161–0254, at ALTRIA_IQOS_EDVA0000000162–63).

³²⁹ Eric Hawes, Dep Tr., 12/4/2020, at 136:16–141:4.

³³⁰ Meyer Report, 2/24/2021, ¶ 169. (Emphasis added.)

8.3.2. Applicable royalty rate

- (151) Even if it were appropriate to utilize the royalty rate from [REDACTED], which, as I have explained in Section 8.3.1 above it is not, the percentage royalty rate the Meyer Report utilizes from [REDACTED] is inappropriate.
- (152) To arrive at a reasonable royalty based on the [REDACTED], the Meyer Report “allocate[s] the running royalty of [REDACTED] of Net Sales set forth in the [REDACTED] to the five Asserted Fontem Patent Families based on the value of the technology claimed in those patent families.”³⁶⁰ However, the [REDACTED] rate is not the effective rate associated with the [REDACTED] for the reasons I describe below.
- (153) As an initial matter, [REDACTED]
[REDACTED] Indeed, Michael Manson, an Altria 30(b)(6) witness testified that [REDACTED]
[REDACTED]
[REDACTED]³⁶¹
By [REDACTED], the Meyer Report significantly overstates the royalties that would be applicable for the asserted patents.
- (154) Per the [REDACTED]
[REDACTED] See Section 12.2.2. As discussed in Section 12.2.2, when [REDACTED]
[REDACTED]
[REDACTED] In other words, [REDACTED]
[REDACTED] The Meyer Report does not explain why [REDACTED]
[REDACTED] is an appropriate starting point for determining reasonable royalties for the asserted patents.

360 Meyer Report, 2/24/2021, ¶ 264.

361 Michael Manson, Dep. Tr., 11/18/2021, at 168:25–169:25.

(155) Notwithstanding the above point, per [REDACTED], variable royalties were computed as [REDACTED]
[REDACTED]
[REDACTED]—a point acknowledged in the Meyer Report.³⁶² Yet, the Meyer Report does not offer any analysis using [REDACTED], choosing instead to utilize [REDACTED] rate which results in inflated royalties.

(156) Indeed, if one were to start with the [REDACTED] per cartridge or cartomizer [REDACTED] but apply the same relative value for each of the five patent families that the Meyer Report uses, royalties would be significantly lower. I note that this analysis is intended only to illustrate that by ignoring the [REDACTED] per cartridge or cartomizer as described in [REDACTED], the Meyer Report significantly overinflates royalties. As I describe in more detail throughout Section 8, there are several other issues with the analysis in the Meyer Report which I further address in the analysis I perform in Sections 13 and 14.

- a. For the '545 patent: Per the Meyer Report, 35% of the value of the Fontem portfolio can be attributed to the Spray Atomizer family, which the Meyer Report claims is comparable to the '545 patent. See Section 8.1. Applying this percentage to [REDACTED] results in an apportioned royalty per cartridge or cartomizer of [REDACTED]. There are [REDACTED] cartridges in the accused sales base for the '545 patent. Multiplying [REDACTED] by [REDACTED] would result in royalties of [REDACTED]. In contrast, applying the Meyer Report's baseline royalty rate of [REDACTED] to the Meyer Report's royalty base of [REDACTED] for the '545 patent results in royalties of [REDACTED]. In other words, using the baseline royalty rates from the Meyer Report results in a [REDACTED] increase in royalties for the '545 patent. See Attachments F-1 and F-2.
- b. For the '265 patent: Per the Meyer Report, 10% of the value of the Fontem portfolio can be attributed to the Air Channel family, which the Meyer Report claims is comparable to the '265 patent. See Section 8.1. Applying this percentage to the [REDACTED] results in an apportioned royalty per cartridge or cartomizer of [REDACTED]. There are [REDACTED] cartridges in the accused sales base for the '265 patent. Multiplying [REDACTED] by [REDACTED] would result in royalties of [REDACTED]. In contrast, applying the Meyer Report's baseline royalty rate of [REDACTED] to the Meyer Report's royalty base of [REDACTED] for the '265 patent results in royalties of [REDACTED]. In other words, using the baseline

³⁶² US Settlement and License Agreement, 12/23/2016 (ALTRIA_IQOS_EDVA_0000001784–1838, at ALTRIA_IQOS_EDVA_0000001784, ALTRIA_IQOS_EDVA_0000001785, ALTRIA_IQOS_EDVA_0000001797).

The [REDACTED] defines a cartomizer as “an assembly for use in an Electronic Cigarette that holds the eLiquid and contains an atomizer.” The agreement defines a cartridge as “an assembly for use in an Electronic Cigarette that holds the eLiquid, but excluding Cartomizers.”

Meyer Report, 2/24/2021, ¶¶ 246–247.

royalty rates from the Meyer Report results in a [REDACTED] increase in royalties for the '265 patent. See Attachments F-1 and F-3.

- c. For the '911 patent: Per the Meyer Report, 35% of the value of the Fontem portfolio can be attributed to the Shell Design family, which the Meyer Report claims is comparable to the '911 patent. See Section 8.1. Applying this percentage to the [REDACTED] results in an apportioned royalty per cartridge or cartomizer of [REDACTED]. There are [REDACTED] cartridges in the accused sales base for the '911 patent. Multiplying [REDACTED] by [REDACTED] would result in royalties of [REDACTED]. In contrast, applying the Meyer Report's baseline royalty rate of [REDACTED] to the Meyer Report's royalty base of [REDACTED] for the '911 patent results in royalties of [REDACTED]. In other words, using the baseline royalty rates from the Meyer Report results in a [REDACTED] increase in royalties for the '911 patent. See Attachments F-1 and F-4.

(157) Furthermore, as discussed in Section 12.2.2, the agreement included [REDACTED]
[REDACTED]
[REDACTED]. Per this clause, [REDACTED]
[REDACTED]
[REDACTED].³⁶³ If instead the candidate effective royalty rate [REDACTED]
[REDACTED]
[REDACTED].³⁶⁴ See Section 12.2.2. Thus, the parties effectively agreed that [REDACTED]
[REDACTED]
[REDACTED].³⁶⁵

³⁶³ See Section 12.2.2.

³⁶⁴ See Section 12.2.2.

³⁶⁵ The "Effective Royalty Rate" is defined as [REDACTED]
[REDACTED]
[REDACTED]

See: US Settlement and License Agreement, 12/23/2016 (ALTRIA_IQOS_EDVA_0000001784-1838, at ALTRIA_IQOS_EDVA_0000001801).

9. Hypothetical Negotiations

- (183) A reasonable royalty can be determined through an analysis of what a willing licensor and a willing licensee would have bargained for during an arm's-length, hypothetical negotiation occurring on the eve of infringement.⁴²⁵ I understand that the date of the hypothetical negotiation for the patents-in-suit would be the eve of first alleged infringement by Reynolds. In this case, the first infringement by Reynolds occurred on separate dates for each of the patents-in-suit. Therefore, the hypothetical negotiation for each of the asserted patents would occur at different points in time.
- (184) As discussed in Section 2.2, RJRV is the manufacturer for all of the VUSE accused products and their associated flavor packs. Thus, at the hypothetical negotiations for each of the patents-in-suit, RJRV would act as the licensee. To the extent that RAI is present at any of the hypothetical negotiations, my opinion remains unchanged.
- (185) Reynolds' first alleged infringement of the '545 patent occurred on or around March 2013, when the accused version of Reynolds' VUSE Solo product launched. See Section 5. Thus, the hypothetical negotiation for the '545 patent would occur on or around March 2013. As discussed in Section 4.1, PM USA is the assignee of the '545 patent. Thus, the hypothetical negotiation for the '545 patent would take place between PM USA as the licensor and RJRV as the licensee.
- (186) Reynolds' first alleged infringement of the '265 patent occurred on or around August 2018, when Reynolds' VUSE Alto product launched. See Section 5. Thus, the hypothetical negotiation for the '265 patent would occur on or around August 2018. As discussed in

⁴²⁵ *Applied Med. Resources Corp. v. U.S. Surgical Corp.*, 435 F.3d 1356, 1361 (Fed. Cir. 2006). ("When an established royalty does not exist, a court may determine a reasonable royalty based on 'hypothetical negotiations between willing licensor and willing licensee.' *Fromson*, 853 F.2d at 1574.")

Rite-Hite Corp. v. Kelley Co., Inc., 56 F.3d 1538, 1554 (Fed. Cir. 1995). ("A patentee is entitled to no less than a reasonable royalty on an infringer's sales for which the patentee has not established entitlement to lost profits. 35 U.S.C. § 284 (1988); *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1078, 219 USPQ 679, 681-82 (Fed.Cir.1983) ('If actual damages cannot be ascertained, then a reasonable royalty must be determined.'). The royalty may be based upon an established royalty, if there is one, or if not, upon the supposed result of hypothetical negotiations between the plaintiff and defendant. *Id.* at 1078, 219 USPQ at 682. The hypothetical negotiation requires the court to envision the terms of a licensing agreement reached as the result of a supposed meeting between the patentee and the infringer at the time infringement began. *Id.*")

State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1580 (Fed. Cir. 1989). ("The determination of a reasonable royalty, however, is based not on the infringer's profit margin, but on what a willing licensor and licensee would bargain for at hypothetical negotiations on the date infringement started. *Radio Steel & Mfg. Co. v. MTD Prod., Inc.*, 788 F.2d 1554, 1557, 229 USPQ 431, 433 (Fed.Cir.1986).")

Section 4.2, PMP is the assignee of the '265 patent. Thus, the hypothetical negotiation for the '265 patent would take place between PMP as the licensor and RJRV as the licensee.

- (187) Reynolds' first alleged infringement of the '911 patent occurred on or around October 23, 2018, the issuance date of the patent. See Section 4. Thus, the hypothetical negotiation for the '911 patent would occur on or around October 23, 2018. As discussed in Section 4.3, PMP is the assignee of the '911 patent. Thus, the hypothetical negotiation for the '911 patent would take place between PMP as the licensor and RJRV as the licensee.
- (188) Reynolds' first alleged infringement of the '374 patent occurred on or around September 24, 2019, the issuance date of the patent. See Section 4. Thus, the hypothetical negotiation for the '374 patent would occur on or around September 24, 2019. As discussed in Section 4.4, ACS is the assignee of the '374 patent. Thus, the hypothetical negotiation for the '374 patent would take place between ACS as the licensor and RJRV as the licensee.
- (189) Reynolds' first alleged infringement of the '556 patent occurred on or around February 11, 2020, the issuance date of the patent. See Section 4. Thus, the hypothetical negotiation for the '556 patent would occur on or around February 11, 2020. As discussed in Section 4.5, PMP is the assignee of the '556 patent. Thus, the hypothetical negotiation for the '556 patent would take place between PMP as the licensor and RJRV as the licensee.
- (190) The Meyer Report contends that there would be a single hypothetical negotiation for the '265, '911, and '556 patents occurring in August 2018 between PMP as licensor and RJRV as licensee.⁴²⁶ While I disagree with the Meyer Report's claim that the parties would negotiate licenses for patents that did not yet exist (and, thus, the negotiation not occurring on the eve of infringement), the conclusions of my analysis would not change if, for some reason, it were determined that the appropriate date for the hypothetical negotiations for the '265, '911, and '556 patents would occur in August 2018 as the Meyer Report contends.

⁴²⁶ Meyer Report, 2/24/2021, ¶¶ 121–124.

13. Market Approach

13.1. Overview

- (258) I utilize a market approach to evaluate royalties for the '545, '265, '374, and '911 patents.
- (259) The market approach is a method of ascertaining value by comparing historical transactions involving assets similar to the asset being evaluated.⁵⁷⁹ The market approach is based on the premise that the value of an asset may be determined by reference to how others in the marketplace have valued the same or similar assets.⁵⁸⁰ The market approach is a generally accepted and widely used methodology for valuation of both tangible and intangible assets, including patents.⁵⁸¹

⁵⁷⁹ Smith, Gordon and Russell Parr (2000), *Valuation of Intellectual Property and Intangible Assets, (Third Edition)*, New York, NY: John Wiley & Sons, Inc., at 175. ("The market approach provides indications of value by studying transactions of property similar to the property for which a value conclusion is desired.")

Anson, Weston (2005), *Fundamentals of Intellectual Property Valuation: A Primer for Identifying and Determining Value*, Chicago, IL: American Bar Association, at 34. ("[Under the market approach], intangible assets are valued by comparing recent sales or other transactions involving similar assets in similar markets. . . The market approach utilizes actual transaction values derived from the sale or license of similar assets.")

Corbett, Michaelyn, Mohan Rao, and David Teece (2006), "A Primer on Trademarks and Trademark Valuation," in Daniel Slottje, ed., *Economic Damages in Intellectual Property: A Hands-On Guide to Litigation*, New Jersey: John Wiley & Sons, Inc., at 291. ("The market approach references a market with comparable transactions to determine the fair market value of an asset.")

Financial Accounting Standards Board, Original Pronouncements as Amended, Statement of Financial Accounting Standards No. 157: Fair Value Measurements, 11/15/2007, at FAS157-10. ("The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities[.]")

⁵⁸⁰ Murphy, William, John Orcutt, and Paul Remus (2012), *Patent Valuation: Improving Decision Making through Analysis*, Hoboken, NJ: John Wiley & Sons, Inc., at 16. ("Market methods seek to determine the value of an asset by reference to how other buyers and sellers have valued the same or similar assets.")

Smith, Gordon and Russell Parr (2000), *Valuation of Intellectual Property and Intangible Assets, (Third Edition)*, New York, NY: John Wiley & Sons, Inc., at 170. ("The market approach is the most direct and the most easily understood appraisal technique. It measures the present value of future benefits by obtaining a consensus of what others in the marketplace have judged it to be.")

Razgaitis, Richard (2003), *Valuation and Pricing of Technology-Based Intellectual Property*, Hoboken, NJ: John Wiley & Sons, Inc., at 59. ("One of the traditional approaches to the valuation for anything is commonly known as the *market* (or, sometimes, the *comparables*) method. The simple underlying idea is that there exists a historical transaction that was valued by other parties that can be used as a direct prediction of the value of the present opportunity.")

⁵⁸¹ Anson, Weston (2005), *Fundamentals of Intellectual Property Valuation: A Primer for Identifying and Determining Value*, Chicago, IL: American Bar Association, at 30. ("[T]here are some basic, traditional methods of valuation: the three most popular are the market approach, the income approach, and the cost approach . . . [These are] three accepted and traditional methodologies[.]")

Smith, Gordon and Russell Parr (2000), *Valuation of Intellectual Property and Intangible Assets, (Third Edition)*, New York, NY: John Wiley & Sons, Inc., at 173 ("The cost, income, and market approaches are the tools for valuation. Virtually any type of

(260) Under the market approach, patent royalties may be estimated using the terms of license agreements that are comparable⁵⁸² to the license resulting from the hypothetical negotiation.⁵⁸³ Adjustments to the terms of comparable agreements can be made where appropriate to account for technological and economic differences that may exist between the license resulting from the hypothetical negotiation.⁵⁸⁴ For example, some of the economic issues that

property can be valued using them.”), 175 (“Three generally accepted valuation methodologies are useful for valuing intellectual property and intangible assets. They are the *market*, *cost*, and *income* approaches.”).

Murphy, William, John Orcutt, and Paul Remus (2012), *Patent Valuation: Improving Decision Making through Analysis*, Hoboken, NJ: John Wiley & Sons, Inc., at 16. (“The three basic valuation methodologies are income methods, market methods, and cost methods. Sometimes different names are used or some new valuation methodology is claimed, but all valuation methodologies can be traced back to these three fundamental approaches to valuation analysis.”)

Razgaitis, Richard (2003), *Valuation and Pricing of Technology-Based Intellectual Property*, Hoboken, NJ: John Wiley & Sons, Inc., at 59. (“One of the traditional approaches to the valuation for anything is commonly known as the *market* (or, sometimes, the *comparables*) method.”)

Financial Accounting Standards Board, Original Pronouncements as Amended, Statement of Financial Accounting Standards No. 157: Fair Value Measurements, 11/15/2007, at FAS157–10. (“Valuation techniques consistent with the market approach, income approach, and/or cost approach shall be used to measure fair value.”)

Murphy, William, John Orcutt, and Paul Remus (2012), *Patent Valuation: Improving Decision Making through Analysis*, Hoboken, NJ: John Wiley & Sons, Inc., at 190. (“Market methods are regularly used to value patents.”)

⁵⁸² Throughout my report, I use the term comparable to refer to agreements or transactions that are sufficiently similar to the hypothetical negotiation such that differences between the agreement or transaction on the one hand, and the hypothetical negotiation on the other hand, can be reliably accounted for.

⁵⁸³ Razgaitis, Richard (2003), *Valuation and Pricing of Technology-Based Intellectual Property*, Hoboken, NJ: John Wiley & Sons, Inc., at 60. (“[Applied to] technology licensing, the market valuation approach is the use of the terms of one or more comparable license agreements to estimate the value of the subject technology licensing opportunity . . . In many cases, applying the market valuation approach leads to numerous, say a dozen or more, agreements in the same broad technology category but no one of which, for different reasons, is exactly or near exactly comparable. In this circumstance, one may yet be able to estimate a royalty range from this family of agreements.”)

Anson, Weston (2010), *IP Valuation and Management*, Chicago, IL: American Bar Association, at 199. (“[The comparables method] can be a superb way to establish royalty rates, given that sufficient comparable data and sufficient detail on the comparable pieces of data are available. In this method, royalties are established by comparing a licensing royalty rate to other licensing royalty rates that have been negotiated in the market.”)

Corbett, Michaelyn, Mohan Rao, and David Teece (2006), “A Primer on Trademarks and Trademark Valuation,” in Daniel Slottje, ed., *Economic Damages in Intellectual Property: A Hands-On Guide to Litigation*, New Jersey: John Wiley & Sons, Inc., at 292. (“The market approach is often helpful in determining running royalty rates in specific licensing transactions based on similar transactions in the marketplace.”)

Anson, Weston (2005), *Fundamentals of Intellectual Property Valuation: A Primer for Identifying and Determining Value*, Chicago, IL: American Bar Association, at 207. (“Strong, but not necessarily definitive, evidence of the market rate for a license exists if the plaintiff has an established history of negotiating licenses for products comparable to the one that has been infringed. The historical evidence, however, is only a guide, a starting point.”)

⁵⁸⁴ Frank, Peter, Vincent O’Brien, and Michael Wagner (2007), “Patent Infringement Damages,” in Roman Weil, et. al., ed., *Litigation Services Handbook: The Role of the Financial Expert, (Fourth Edition)*, Hoboken, NJ: John Wiley & Sons, Inc., at 22. (“[The third, fourth, fifth, and seventh factors of the court in *Georgia-Pacific*] raise fact (or descriptive) issues, and the analyst should evaluate them to judge how, if at all, observed royalty rates apply to the infringed product. If similarities exist between an actual license and the hypothetical license, the observed royalty rate can provide a starting point to ascertain the appropriate hypothetical rate. If differences exist between the licensing situations, the expert can make appropriate adjustments.”)

may impact the terms of a license that can be considered in a hypothetical negotiation analysis include exclusivity, geography, time period, market size, and competitive environment, among others.⁵⁸⁵

- (261) Indeed, the Federal Circuit has approved “of a methodology that values the asserted patent based on comparable licenses...Such a model begins with rates from comparable licenses and then ‘account[s] for differences in the technologies and economic circumstances of the contracting parties.’”⁵⁸⁶ In other words, agreements may be considered comparable if they are sufficiently similar such that adjustments can be made to accurately reflect the outcome of the hypothetical negotiation.
- (262) In addition, several *Georgia-Pacific* factors relate to royalties received by the patentee (factor 1), rates paid by the licensee (factor 2), the patentee’s licensing practices and policies (factor 4), and the portion of a selling price that may be customary for the contribution of an invention in the industry (factor 12). See Section 16.
- (263) The Fontem-RJRV agreement is sufficiently comparable to the circumstances of the hypothetical negotiations for the ’545, ’265, ’374, and ’911 patents for several reasons. As I

Anson, Weston (2010), *IP Valuation and Management*, Chicago, IL: American Bar Association, at 52. (“[A]djustment and analysis of comparables that do exist are almost invariably necessary, and these adjustments in the hands of an experienced IP valuation analyst can be used to arrive at an accurate value.”)

Corbett, Michaelyn, Mohan Rao, and David Teece (2006), “A Primer on Trademarks and Trademark Valuation,” in Daniel Slotte, ed., *Economic Damages in Intellectual Property: A Hands-On Guide to Litigation*, New Jersey: John Wiley & Sons, Inc., at 292. (“Any market approach analysis will likely require reasonable adjustments.”)

Leonard, Gregory and Lauren Stiroh (2005), “A Practical Guide to Damages,” in Gregory Leonard and Lauren Stiroh, ed., *Economic Approaches to Intellectual Property: Policy, Litigation, and Management*, White Plains, NY: National Economic Research Associates, Inc., at 49. (“Market-based royalty determination methods must take explicit account of the idiosyncrasies of the particular patent being licensed, the parties to the negotiation, the alternatives to the technology at issue, and the timing of the hypothetical negotiation.”)

⁵⁸⁵ Anson, Weston (2010), *IP Valuation and Management*, Chicago, IL: American Bar Association, at 205. (“Issues such as exclusivity, geography, time period, market size, and competitive environment all have to be considered in any analysis of hypothetical negotiation at the time when the cause of litigation occurred.”)

⁵⁸⁶ *Commonwealth Scientific and Industrial Research Organisation v. Cisco Systems, Inc.*, 809 F.3d 1295, 1303 (Fed. Cir. 2015). (Quoting *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1211 (Fed. Cir. 2010).)

See also:

LaserDynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51, 79 (Fed. Cir. 2012). (“Actual licenses to the patented technology are highly probative as to what constitutes a reasonable royalty for those patent rights because such actual licenses most clearly reflect the economic value of the patented technology in the marketplace.”)

Apple Inc. v. Motorola, Inc., 757 F.3d 1286, 1325 (Fed. Cir. 2014). (“As we have held many times, using sufficiently comparable licenses is a generally reliable method of estimating the value of a patent.”)

Ericsson, Inc. v. D-Link Systems, Inc., 773 F.3d 1201, 1227 (Fed. Cir. 2014). (“This court has recognized that licenses may be presented to the jury to help the jury decide an appropriate royalty award.”)

explain in more detail below, the Fontem-RJRV agreement involves the same licensee as the hypothetical negotiations, *i.e.*, RJRV. The Fontem-RJRV agreement also involves the same products as the hypothetical negotiations, *i.e.*, VUSE products. Furthermore, the Fontem-RJRV agreement covers patents relating to e-cigarette technology. Additionally, I understand that the '545 patent is technically comparable to patents in the Fontem Spray Atomizer family, the '265 patent is technically comparable to the Fontem patents in the Air Channel family, the '374 patent is technically comparable to the Fontem patents in the Reed Switch family, and the '911 patent is technically comparable to the Fontem patents in the Shell Design family.⁵⁸⁷ However, there are also differences between the Fontem-RJRV agreement and the circumstances of the hypothetical negotiations, such as the duration of the license, that must be accounted for as I describe below.

- (264) Fontem licensed RJRV its entire portfolio for a [REDACTED]. See Section 12.2.1. Product sales covered under the Fontem-RJRV license would have included at least the sales of VUSE Solo, VUSE Vibe, VUSE Ciro, and VUSE Alto from their date of first sale by RJRV because the date of first sale of each of the accused products was before the agreement's effective date of 9/24/2018.⁵⁸⁸ The date of first sale of VUSE Solo, VUSE Vibe, VUSE Ciro, and VUSE Alto occurred in 2013, 2016, 2017, and 2018 respectively. See Section 5 and Attachment D-4.
- (265) I calculate the effective percentage royalty rate paid by RJRV based on actual VUSE sales through 2020 and projected VUSE sales through 2025. Specifically, I divide the sum of VUSE sales from 2013 through 2025 (in 2018-Q4 present value terms) by RJRV's payment to

⁵⁸⁷ I understand that the '374 patent also cites several of the Reed Switch family patents, which is another indication that the patents in the Reed Switch family are technically comparable to the '374 patent. See:

For the '374 and '545 patent: Interview with Travis N. Blalock. See Attachment A-5.

For the '265 patent: Interview with Jeffrey C. Suhling. See Attachment A-6.

I understand that U.S. Patent No. 8,156,944 in the Shell Design Family includes similar disclosures about using a cavity or groove to help reduce liquid leakage. See:

For '911 patent: Interview with Kelly R. Kodama. See Attachment A-7.

See also: Meyer Report, 2/24/2021, ¶¶ 200–202.

⁵⁸⁸ Fontem-RJRV US Settlement and License Agreement 9/24/2018 (RJREDVA 001521385–1559 at RJREDVA-001521387).

[REDACTED]

See also Section 5.1.

Fontem, i.e., [REDACTED].⁵⁸⁹ See Attachments D-4 and D-5. The reason I utilize sales until 2025 is that RJRV has produced sales projections that extend until 2025.⁵⁹⁰ Using projections until 2025 results in an upper bound percentage royalty rate for all patents licensed as part of the Fontem-RJRV agreement of [REDACTED]. In other words, this percentage royalty rate is higher than the effective percentage royalty rate from the Fontem-RJRV agreement because it is calculated based on a lower revenue base.⁵⁹¹

- (266) There are a number of factors to consider in evaluating the Fontem-RJRV agreement relative to the hypothetical negotiations for the '545, '265, '374 and '911 patents, including the following:
- a. Parties. The Fontem-RJRV agreement involves Fontem as the licensor and RJRV as the licensee. See Section 12.2.1. At the hypothetical negotiations for the '545, '265, '374 and '911 patents, PM USA / PMP would be the licensor and RJRV would be the licensee. See Section 9. Since RJRV is the licensee for the Fontem-RJRV agreement as well as at the hypothetical negotiations, the royalty described in the Fontem-RJRV agreement is reflective of RJRV's willingness to pay for a license.
 - b. Products. Products covered by the Fontem-RJRV agreement included electronic cigarettes, components and eLiquids sold alone or as part of an electronic cigarette or component, or part of a kit containing an electronic cigarette.⁵⁹² As discussed above, product sales covered under the Fontem-RJRV license would have included at least the sales of VUSE Solo, VUSE Vibe, VUSE Ciro, and VUSE Alto from their date of first sale by RJRV.⁵⁹³ These are the same products that are at issue in this matter. See Section 5.
 - c. Licensed technology. As discussed above, I understand that there are similarities between the Fontem Spray Atomizer family and the '545 patent, the Fontem Air Channel family and the '265 patent, the Fontem Reed Switch family and the '374 patent, and the Fontem

⁵⁸⁹ I evaluate sales in 2018-Q4 present value terms because the effective date of the Fontem-RJRV agreement was in Q4-2018. Accordingly the parties would have viewed sales in 2018-Q4 present value terms.

See: Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385-1559, at RJREDVA-001521385).

⁵⁹⁰ See Attachment B-5.

I understand that the information contained within the spreadsheets are extracted from an RJRV database. I also understand that the forecasts are created in the ordinary course of business and are used by RJRV to make business decisions. Interview with Scott Peddycord. See Attachment A-4.

⁵⁹¹ If sales through the last to expire patent marked on the VUSE products are used, the effective royalty rate would be [REDACTED]. See Attachment D-5.

⁵⁹² Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385-1559, at RJREDVA_001521391).

⁵⁹³ Fontem-RJRV US Settlement and License Agreement 9/24/2018 (RJREDVA 001521385-1559 at RJREDVA-001521387).

[REDACTED]

Shell Design family and the '911 patent family.⁵⁹⁴ I also understand that Counterclaim Plaintiffs' expert Mr. McAlexander alleges that "the technology claimed in the Spray Atomizer, Shell Design, Reed Switch, Body Sensitive Sensor & Atomizer, and Air Channel Patents in the Fontem-RJRV and [REDACTED] Agreements are not comparable to the technology claimed in the '374 Patent."⁵⁹⁵ However, according to Dr. Blalock, I understand that the patents in the Reed Switch patent family are technically comparable to the '374 patent.⁵⁹⁶

The Fontem patents are more widely licensed than the '545, '265, '374, and '911 patents. See Section 12. Furthermore, I understand that the Fontem Spray Atomizer, Air Channel, and Reed Switch families are at least as valuable as the '545, '265, and '374 patents, respectively.⁵⁹⁷ I also understand that the claims made by Counterclaim experts that the '911 patent is more valuable than the Shell Design family are unsubstantiated, as they do not account for the value of the absence of a detailed dimensional requirement for the interior structure of an e-cigarette device from the claims of the Shell Design family patents.⁵⁹⁸

- d. Number of patents. The [REDACTED] payment related to the Fontem-RJRV agreement covered numerous patents and patent applications. Specifically, the licensed patents listed in Exhibit A of the Fontem-RJRV agreement include [REDACTED]⁵⁹⁹
- Furthermore, the Fontem-RJRV agreement also covered [REDACTED]⁶⁰⁰
- e. License duration. The Fontem-RJRV agreement states that the agreement would [REDACTED]

⁵⁹⁴ For the '374 and '545 patent: Interview with Travis N. Blalock. See Attachment A-5.

For the '265 patent: Interview with Jeffrey C. Suhling. See Attachment A-6.

For '911 patent: Interview with Kelly R. Kodama. See Attachment A-7.

See also: Meyer Report, 2/24/2021, ¶¶ 200–202..

⁵⁹⁵ McAlexander Report, 2/24/2021, ¶ 727.

⁵⁹⁶ Interview with Travis N. Blalock. See Attachment A-5.

⁵⁹⁷ For the '374 and '545 patent: Interview with Travis N. Blalock. See Attachment A-5.

For the '265 patent: Interview with Jeffrey C. Suhling. See Attachment A-6.

⁵⁹⁸ Interview with Kelly R. Kodama. See Attachment A-7

⁵⁹⁹ Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385–1559, at RJREDVA-001521415–420).

See also:

Meyer Report, 2/24/2021, ¶ 197.

⁶⁰⁰ Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385–1559, at RJREDVA_001521391, RJREDVA_001521395).

[REDACTED]

[REDACTED].⁶⁰¹ The last to expire patent in the Spray Atomizer family marked on VUSE products expires on June 11, 2027, the last to expire patent in the Air Channel family marked on VUSE products expires on January 28, 2030, the last to expire patent in the Reed Switch family marked on VUSE products expires on September 19, 2027, and the last to expire patent in the Shell Design family marked on VUSE products expires on June 13, 2028. See Attachment D-1. Damages herein are calculated through December 31, 2020, the latest date for which sales of the accused products have been provided.

- f. Exclusivity. The Fontem-RJRV agreement conferred a non-exclusive license to the licensed technology.⁶⁰² Similarly, the parties at the hypothetical negotiations would likely agree to a non-exclusive license to the asserted patents. See Section 11.1.
- g. Geography. The territory for the Fontem-RJRV agreement is the United States.⁶⁰³ Similarly, the licenses for the asserted patents would grant Counterclaim Defendants rights to the technology to sell, offer to sell, and import the accused products in the United States. See Section 11.3.
- h. Relationship between the parties. Fontem and RJRV were competitors at the time the Fontem-RJRV agreement was executed with its blu e-cigarette product.⁶⁰⁴ As such, royalties reflecting a competitive relationship are already built into the royalties specified in the Fontem-RJRV agreement. As described in Section 10, there would be some degree of a competitive relationship between RJRV and PMP/PM USA at the time of the hypothetical negotiations. Therefore, no further adjustment for a competitive relationship is necessary to compare the Fontem-RJRV agreement to the hypothetical negotiation.

⁶⁰¹ Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385–1559, at RJREDVA_001521400).

⁶⁰² Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385–1559, at RJREDVA_001521395).

[REDACTED]

See:

Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385–1559, at RJREDVA_001521396).

[REDACTED]

See:

Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385–1559, at RJREDVA_001521407–412).

⁶⁰³ Fontem-RJRV US Settlement and License Agreement, 9/24/2018 (RJREDVA_001521385–1559, at RJREDVA_001521385).

⁶⁰⁴ Fontem Press Release, “Fontem Acquires Leading Vaping Brand blu eCigs,” 7/1/2015, <https://www.fontemventures.com/news/fontem-acquires-leading-vaping-brand-blu-e-cigs/#:~:text=blu%20eCigs%2C%20the%20number%20one,blu%20to%20the%20Fontem%20family>.

- i. Royalty structure. The Fontem-RJRV agreement involved [REDACTED]. See Section 12.2.1. As I explain below, I convert [REDACTED]
- [REDACTED]
- [REDACTED]